REMARKS

AMENDMENTS

Claims 31 and 34 have been cancelled.

Claim 16 has been amended to recite that the negative electrode comprises an active substance to provide antecedent basis for the "in 100 parts by weight of the active substance" feature. Support for this amendment is found in original claim 13 and on page 29, lines 751-754.

Claims 16 and 22 have been amended to recite that the negative electrode comprises ceramic particles not relating to the charge and discharge reactions of the battery. Support for this amendment is found in original claim 1 and on page 4, lines 97-101.

Claims 16 and 22 have been amended to recite that the negative electrode comprises 5 to 20 parts by weight of the ceramic particles in 100 parts by weight of the active substance. Support for this amendment is found in Example 9, page 17, line 445, and on page 21, lines 555-564.

Claims 16 and 22 have been amended to recite that the particle size of the ceramic particles is 1 micron or less. Support for this amendment is found in Example 10, page 17, lines 447-452.

It is submitted that no new matter is introduced by these amendments.

First Rejection under 35 U.S.C. § 112, ¶ 1

Claims 16-25 and 31-36 were rejected under 35 U.S.C. § 112, ¶ 1 as containing subject matter than was not described in the specification.

The Official Action asserted that 1 part by weight of ceramic particles limitation was not supported by the specification. Claims 16 and 22, the

independent claims, have been amended to recite that the negative electrode comprises 5 to 20 parts by weight of the ceramic particles in 100 parts by weight of the active substance. It is submitted that this rejection has been overcome.

The Official Action asserted that the "increase discharge capacity of said battery by at least 20%" limitation of claims 32 and 35 was new matter. This assertion is respectively traversed. Referring to Figure 5, the discharge capacity with 0 wt% particle content is 1.5 mAh. The discharge capacity at 20 wt% particle content is 1.8 mAh. This is an increase of 20%. Discharge capacities for particle contents between 5 wt% and 20 wt% are greater than 20%. It submitted that this limitation is supported by the specification.

Second Rejection under 35 U.S.C. § 112, ¶ 1

Claims 16-25, 32, 33, 35, and 36 were rejected under 35 U.S.C. § 112, ¶ 1. Claims 16 and 25, the independent claims, have been amended to recite that the negative electrode comprises ceramic particles not relating to the charge and discharge reactions of the battery. It is submitted that this rejection has been overcome.

Rejection under 35 U.S.C. § 102(b)

Claims 16-18, 22-25, 31, and 34 were rejected under 35 U.S.C. § 102(b) as anticipated by the computer generated translation of Yamazaki, JP-321301 ("JP '301"). JP '301 discloses a lithium secondary battery in which the negative electrode active material layer contains additive powder having higher hardness than the current collector. Abstract. The particle size of the additive powder is 3 micrometers. JP '301, paragraph 0016, line 2.

As amended, claims 16 and 22, the independent claims, recite that the particle size of the ceramic particles is 1 micron or less. This limitation is not disclosed by JP '301. It is submitted that this rejection has been overcome.

First Rejection under 35 U.S.C. § 103(a)

Claims 32, 33, 35, and 36 were rejected under 35 U.S.C. § 103(a) as unpatentable over JP '301. As amended, claims 16 and 22, the independent claims, recite that the particle size of the ceramic particles is 1 micron or less. This limitation is not disclosed or suggested by JP '301. It is submitted that this rejection has been overcome.

Further, the Office's reliance on *In re Young*, 927 F.2d 588, 18 USPQ2d 1089 (Fed. Cir. 1991) is misplaced. In *Young*, there were two different references. The second reference discredited the first. However, the court found that the second reference "did not accurately test" the teaching of the first reference so an artisan of ordinary skill would not have dismissed the first reference in light of the second reference. *Young*, 18 USPQ at 1092.

The instant case is not one in which a second reference does not accurately test the teachings of a first reference. There is only a single reference. An artisan of ordinary skill seeking to improve negative-electrode capacity per unit volume would not dismiss the teaching in paragraph 0008 that more that 1 part by weight of additive powder would cause negative-electrode capacity per unit volume to fall because cells in which the negative electrode contained 0.05 to 30 parts by weight of additive powder had capacity maintenance factors of 95% or higher. For this additional reason, the rejection of claims 33 and 36 as unpatentable over JP '301 should be withdrawn.

Second Rejection under 35 U.S.C. § 103(a)

Claims 19-21 were rejected under 35 U.S.C. § 103(a) as unpatentable over JP '301 in view of Andrei, U.S. Patent 5,756,231 ("Andrei"). Andrei discloses a composite cathode constituted by active cathode material, by an electronic conductor and by a polymer electrolyte in which the active cathode material is present in a quantity higher than 50% by weight of the cathode compound and is homogeneously dispersed inside the composite cathode. Andrei, column 3, lines 60-65.

As discussed above, claim 16, the independent claim, has been amended to recite that the particle size of the ceramic particles is 1 micron or less. This limitation is not disclosed or suggested by JP '301. Nor is this limitation is not disclosed or suggested by Andrei. Therefore, combination of the references does not produce applicants' invention. It is submitted that this rejection has been overcome.

Conclusion

It is respectfully submitted that the claims are in condition for immediate allowance and a notice to this effect is earnestly solicited. The Examiner is invited to phone applicants' attorney if it is believed that a telephonic or personal interview would expedite prosecution of this application.

Respectfully Submitted,

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Enclosures: Version With Markings Showing Amendments

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VERSION WITH MARKINGS SHOWING AMENDMENTS

IN THE CLAIMS

Claims 31 and 34 have been cancelled.

16. (As Amended) A lithium polymer secondary battery comprising:

a positive electrode;

a negative electrode which is negative during discharging of the battery, the negative electrode comprising an active substance; and

a gel polymer electrolyte comprising polymer and an organic electrolyte solution dissolving a lithium salt;[and]

[ceramic particles having a content of 1 to 10 parts by weight in 100 parts by weight of active substance in the negative electrode;]

wherein:

the negative electrode comprises ceramic particles not relating to the charge and discharge reactions of the battery;

the negative electrode comprises 5 to 20 parts by weight of the ceramic particles in 100 parts by weight of the active substance;

the particle size of the ceramic particles is 1 micron[10 microns] or less; and

the gel polymer electrolyte does not comprise ceramic particles.

22. (As Amended) A non-aqueous lithium ion secondary battery comprising:

a positive electrode comprising a lithium transition metal compound oxide;

a negative electrode which is negative during discharging of the battery, the negative electrode comprising an active substance that occludes and releases lithium ions;

a microporous polymer film separator between the positive electrode and the negative electrode; and

a nonaqueous electrolyte solution dissolving a lithium salt;

wherein:

the negative electrode comprises ceramic particles not relating to the charge and discharge reactions of the battery;

the negative electrode comprises 5 to 20 [having a content of 1 to 10] parts by weight of the ceramic particles in 100 parts by weight of the active substance[in the negative electrode]; and

the particle size of the ceramic particles is 1 micron[10 microns] or less.